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(71)Applicant : HITACHI POWDERED METALS
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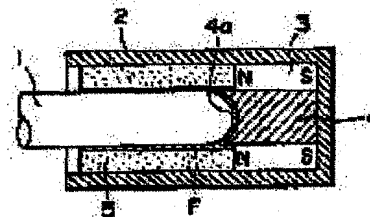
(72)Inventor : KUWABARA HIROYUKI

(54) MAGNETIC FLUID BEARING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To smoothly lubricate a pivotal bearing at the time of high-speed rotation for reducing the frictional resistance so that a high performance and high speed can be achieved.

SOLUTION: The inside hole of housing 2 whose one end of the cylindrical inside hole has been closed is provided with a porous radial bearing 5 in which a magnetic fluid is successively impregnated from the opened end, and a permanent magnet 3 magnetized in the axial direction; and on the closed end side of the inside hole, a pivotal bearing 4 consisting of magnetic surface that can support both the radial load and the thrust load of a turning shaft consisting of magnetic substance is arranged adjacent to the permanent magnet 3. The pivotal bearing 4 is magnetized by the permanent magnet 3, and a magnetic fluid F is attracted by the magnetic force thereof, so that the thrust receiving surface 4a is lubricated.



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(71) 出願人 000233572

日立粉末冶金株式会社

千葉県松戸市松台520番地

(72) 発明者 桑原 宏行

千葉県松戸市金ヶ作344-1-210

(74) 代理人 弁理士 末成 幹生

54) 【発明の名称】 磁性流体軸受装置

57) 【要約】

【課題】 高速回転時のビレット軸受の潤滑を円滑に行うことができ、摩擦抵抗を低減して高性能、高速化に対する。

【解決手段】 筒状の内孔の一端が閉塞されたハウジン(2)の内孔に、開放端側から順に磁性流体が含浸された孔質ラジアル軸受5と、軸方向に着磁された永久磁石3とを設け、内孔の閉塞端側に、磁性体からなる回転軸ラジアル荷重とスラスト荷重とを支持可能な磁性体からなるビレット軸受4を永久磁石3に近接して設けた。永久磁石3によりビレット軸受4が磁化され、その磁力により磁性流体Fが引き寄せられてスラスト受面4aを潤滑する。

